



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|--------------------------------|---------------------|------------------|
| 10/539,540 | 10/27/2005 | Frank Jeroen Pieter Schuurmans | PHNL031517US | 8006 |
| 38107 | 7590 | 11/30/2007 | | |
| PHILIPS INTELLECTUAL PROPERTY & STANDARDS | | | EXAMINER | |
| 595 MINER ROAD | | | GIGLIO, BRYAN J | |
| CLEVELAND, OH 44143 | | | ART UNIT | PAPER NUMBER |
| | | | 2877 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 11/30/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,540

Applicant(s)

SCHUURMANS ET AL.

Examiner

Bryan J. Giglio

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7, 12, 13 and 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11 and 14 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-6, and 8-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 6 is objected to because of the following informalities:

In regard to claim 6, the phrase "wherein a the at least one" is improper. "a" should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 and 14 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to claim 5, an embodiment is not described in the specification which could include both a reflective liquid crystal cell and a tiltable reflective surface in a useful and functional manner.

In regard to claim 14, an embodiment is not described in the specification which could include both an electro-wetting cell and a tiltable reflective surface in a useful and functional manner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sweatt, et al. (U.S. Patent No. 6504943), previously cited, in view of Lindberg, et al. (U.S. Patent No. 5748308), newly cited.

In regard to claim 1 the Sweatt reference teaches an optical analysis system for determining an amplitude of a principal component of an optical signal (see '943, c.6, l.11-24), the optical analysis system comprising: a multivariate optical element for reflecting the optical signal and thereby weighing the optical signal by a spectral weighing function (see '943, c.9, l.20-38), and a detector for detecting the weighed optical signal (see '943, c.9, l.10, "linear optical detector arrays").

The Sweatt reference is silent to the system wherein the multivariate optical element comprises at least one reflective LC cell, per se. The Sweatt reference comprises liquid crystal spatial light modulators (see fig.9, elements 906) in-between dispersing elements (see '943, fig.9 elements 905) for accomplishing spectral modulation as cited. The Sweatt reference shows various reflective and transmissive embodiments, each functionally equivalent for achieving the goal of the invention (see '943, fig.4a-b, 5, 8a-c, and 9).

The Lindberg reference teaches two functionally equivalent spectral weighting embodiments (see fig.1, transmissive and fig. 2, reflective). In the case of the reflective variation, element 208 is a reflective liquid crystal spatial light modulator (see '308, c.4, l.56-63; c.5, l.4-10; and c.6, l.4-26). The Lindberg

reference teaches the benefit of the reflective variation being replacing multiple dispersion elements with a single dispersion element (see c.6, l.4-8).

Therefore, it would have been obvious to a person having ordinary skill in the art to which the subject matter pertains to modify the transmission spectral liquid crystal spatial light modulation system as taught by Sweatt with a reflective liquid crystal spatial light modulator arrangement as taught by Lindberg as compatible and equivalent, in order to replace two dispersive elements with a single dispersive element.

In regard to claim 2, the Sweatt reference teaches the system further comprising a dispersive element for spectrally dispersing the optical signal, the multivariate optical element being arranged to receive the dispersed optical signal (see c.5, l.10, "prism or a diffraction grating"; and see fig.4a-b, 5, 8a-c, and 9).

In regard to claim 3, the Sweatt reference teaches the system wherein the multivariate optical element comprises a region for receiving a spectral portion of the dispersed optical signal, the region having a reflectivity relating to the spectral weighing function (see c.9, l.20-38; and see c.14, l.48 – c.15, l.32).

In regard to claim 4, the Sweatt reference teaches the system wherein the multivariate optical element comprises a region for receiving a spectral portion of the dispersed optical signal, a part of the region being arranged to reflect the dispersed optical signal incident thereon to the detector, another part of the region being arranged to prevent the dispersed optical signal incident thereon from being reflected to the detector (see c.9, l.20-38, and fig.4a and fig.9).

In regard to claim 6, the Sweatt and Lindberg combination teaches the system wherein the at least one reflective LC cell is in the region for receiving a spectral portion of the dispersed optical signal, as cited and combined above. (see '943, fig.9, modified with the arrangement '308, fig.2).

In regard to claim 8, the Sweatt and Lindberg combination teaches the system wherein the detector comprises a first detector for detecting the optical signal weighted by a first spectral weighing function and a second detector for detecting the optical signal weighted by a second spectral weighing function, the multivariate optical element being arranged to reflect a first part of the dispersed optical signal weighted by the first spectral weighing function to the first detector and a second part of the optical signal weighted by the second spectral weighing function to the second detector (see '943, fig.9, modified with the arrangement '308, fig.2).

In regard to claim 9, the Sweatt and Lindberg combination teaches the system wherein the multivariate optical element comprises a first multivariate optical element weighing the optical signal by a first partial weighing function and a second multivariate optical element for weighing the optical signal weighed by the first partial weighing function by a second partial weighing function (see '943, c.9, l.43-47; and see also fig.3, of U.S. Patent No. 4790654, cited by Sweatt in c.2; and see '943, c.14, l.48 – c.15, l.32).

In regard to claim 10, the Sweatt reference teaches the system further comprising a light source for providing light for illuminating a sample (see '943, c.5, l.47) comprising a substance having a concentration (see '943, c.8, l.3-9) and thereby generating the principal component (see fig. 1a), the amplitude of the principal component relating to the concentration of the substance (see '943, c.7, l.5-11).

In regard to claim 11, the Sweatt reference teaches a blood analysis system comprising an optical analysis system as claimed in claim 10, the sample comprising blood (see '943, c.16, l.1-11, "tissue health in a medical setting" and "animal and human tissue as to pathology", wherein tissue includes a blood carrying circulatory system inherently).

In regard to claim 12, the Sweatt reference teaches a method of determining an amplitude of a principal component of an optical signal, the method comprising the steps of: reflecting the optical signal by

a multivariate optical element having a spectral reflectivity corresponding to a spectral weighing function, and detecting the optical signal reflected by the multivariate optical element (see '943, fig.4a; and see '943, c.9, 1.20- 38).

Allowable Subject Matter

Claims 7, 12, 13, and 15-18 are allowed over the prior art of record.

As to claims 7 and 12, the prior art of record, taken alone or in combination, fails to disclose or render obvious a system/method for/of determining an amplitude of a principal component of an optical signal, comprising reflecting the optical signal by a multivariate optical element, wherein the multivariate optical element comprises a region, and the region comprises at least one reflective electro-wetting cell, in combination with the limitations of claim 7 and 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Giglio whose telephone number is (571) 270-1028. The examiner can normally be reached on M-F, 7:30AM-5:00PM EST, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on (571)272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/539,540
Art Unit: 2877

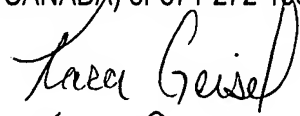
Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



BG

26 November 2007


KARA GEISEL
AU 2877